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Abstract

Indonesia, Malaysia, South Korea, and Thailand continue to perform unsatisfactorily today, ten years after 1997 Asian Crisis. As of 2007, these crisis-affected economies have not fully recouped their losses from the lost opportunities from the Crisis. Unless economic performances return to past trends, another type of economic miracle story may be needed to reclaim their past economic standings. Unless GDP per capita expands faster than present trends, they will continue to face the costs of the lost opportunities. A positive combination of policies is needed: taking up the useful components of the past arrangements and putting in the missing instruments for sound macroeconomic management and international cooperation.

1. INTRODUCTION

Recall that up to the mid-1990s, Indonesia, Malaysia, South Korea, and Thailand realized growth rates that were quite remarkable. Between 1986 and 1996, Indonesia, Malaysia, South Korea, and Thailand averaged a 6.9 per cent growth in gross domestic product (GDP) per capita with manageable inflations, stable exchange rates, and sound fiscal positions. By the mid-1990s, these Asian miracle economies were still seen to maintain strong economic performances into the 2000s. After all, they introduced programs that were seen to be market-conforming, and hence growth-producing. But, in the decade following the 1997 Asian Crisis, their economic performances became relatively unimpressive; they averaged a 3.9 per cent GDP per capita growth.

That the 1997 Asian Crisis crashed the economic miracle story is not debatable anymore. Why the Crisis occurred, how it progressed, and what transpired to address the situation have been extensively discussed, and there is no need to rehearse them here. What only needs to be pointed out for the purpose of this paper is that the Asian region did not have a comparable collective breakdown in the post-World

War II period. In fact, the Crisis was the first event after the Great Depression to seriously threaten the financial stability of the global economy. By 1998, the four crisis-affected economies registered negative growth in GDP per capita: Indonesia at -14.3 per cent; Malaysia at -9.6 per cent; South Korea at -7.5 per cent; and Thailand at -11.4 per cent. And from being successful emerging economies, they were quickly branded as principals of crony capitalism, bastions of corruption, facilitators of wide-scale inefficiencies, and architects of structural defects. On closer inspection, however, such problems were there all along, even before the mid-1990s. Policy-making and program implementation had been captured by elites, even allowed by governments that made interventions much more difficult to execute or worse, ineffective. Of course, there were errors in policies, sometimes introduced for political survival. Policy mistakes arose because of misleading views that the increasing inflow of capital, for example, was a vote of confidence on the direction of policies. There were also mismatches between the domestic and the external sectors that became aggravated as deregulation and financial liberalization were pursued aggressively. In addition, inferior industrial policies undermined capital-deepening and discouraged technological adaptation; hence progressive industrial transformation was hard to realize. In the end, Indonesia, Malaysia, South Korea, and Thailand were susceptible to speculative attacks and crises. That is, they were robust only to the extent that international finance continued to fuel their economic expansions and that export-oriented strategy remained viable. Yet it needs to be pointed out that observers were not unaware of the problems or they did not want reforms to be introduced to address the situation. Rather, domestic and international players were more determined to consolidate control over capital as government regulations and controls were progressively relaxed. So as governments retreated from active management of the economy and became weaker, in turn, they found it much more difficult to maintain the same level of effectiveness as before. Thus, various factors had converged when the Crisis exploded. As it progressed, capital rushed out from the crisis-affected economies, making the adjustment process very difficult but also intensifying the fallout of the Crisis, and hence causing wide-scale damages.

Ten years after the 1997 Asian Crisis, the impacts remain visible: lower economic growth trends considered to be pragmatic targets, hesitant investors that do not embark on large investments minus the

guarantees they enjoyed before, resources that continue to shift away from physical capital accumulation and into short-term liquid assets, and dollar reserves that continue to increase as a precautionary stance against reliving the painful experience of dried-up liquidity, to list some key changes. There are welcome developments as well, such as reforms to promote the development of the banking and financial sectors, efforts to strengthen corporate governance and improve the information reporting systems, introduction of social insurance, especially to mitigate the adverse effects of adjustments with globalization and economic integration, and renewed commitments to reduce poverty, among others.

This paper has two arguments. The first is that Indonesia, Malaysia, South Korea, and Thailand continue to perform unsatisfactorily ten years after the 1997 Asian Crisis. Unless economic performances reach dynamic levels similar to the past, another type of economic miracle story may be needed to reclaim the past economic standings. The second argument is as follows: forensic accounting on the economic performances of the four crisis-affected economies in the post-Crisis period reveals that they have not fully recouped their losses as of 2007. Again, unless they have dynamic performances, these economies would continue to face the cost of the lost opportunities. Part 2 elaborates on how the Crisis impacted the economic performances of the four economies, and Part 3 discusses the forensic accounting. The last part of the paper concludes the discussions.

2. THE FALL OUT OF THE 1997 ASIAN CRISIS

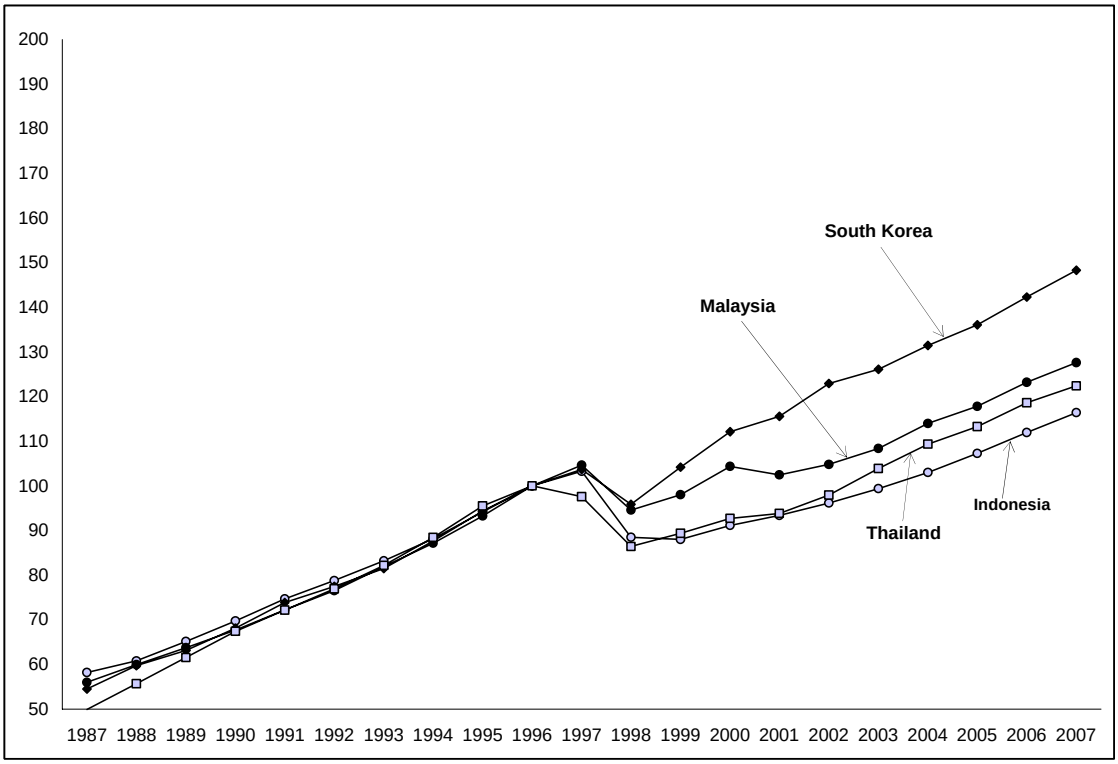
The 1997 Asian Crisis has many aspects that continue to be debated and researched – hence this paper. Retrospective studies are coming out on the tenth anniversary of the Crisis to inform prospective actions, to recognize the historical and think historically to inform future actions. The jury may have earlier given their decision on how the Crisis impacted the economic performances of Indonesia, Malaysia, South Korea, and Thailand.[1] Ten years hence, this paper has the advantage of a longer history on which to base a review. For one, the complicating and conflicting factors that were still manifesting in the late 1990s or continued to be at play in the early 2000s have now fully worked themselves out. Accordingly, this paper can revisit the evidence with a counterfactual lens. In the end, the paper hopes to sustain the reform efforts

[1] See Craft (1999), Barro (2001), Cerra and Saxena (2003; 2005), Hutchison and Noy (2005).

in these economies, given there remain vulnerabilities plus emerging challenges like economic integration and how to deal with it in the Asian way.

GDP per capita (in 2000 prices) of Indonesia, Malaysia, South Korea, and Thailand from 1987 to 2007 were obtained from the *World Development Indicators* and *Asian Development Outlook*. The data were normalized to 1996, and Figure 1 below shows the result. The figure presents that Indonesia took eight years (i.e., 2004) to regain its 1996 GDP per capita. Malaysia regained its 1996 GDP per capita in 2000. South Korea bounced back rather quickly from its contraction in 1998, exceeding its 1996 GDP per capita by 1999. Thailand regained its 1996 GDP per capita level after seven years, in 2003. What is more interesting to note in Figure 1 is that between 1987 and 1996, the four economies had a rather tight pattern of economic performances – especially in the first half of the 1990s – as if chained to one another.

Figure 1: GDP per Capita in 2000 Prices, Normalized to 1996

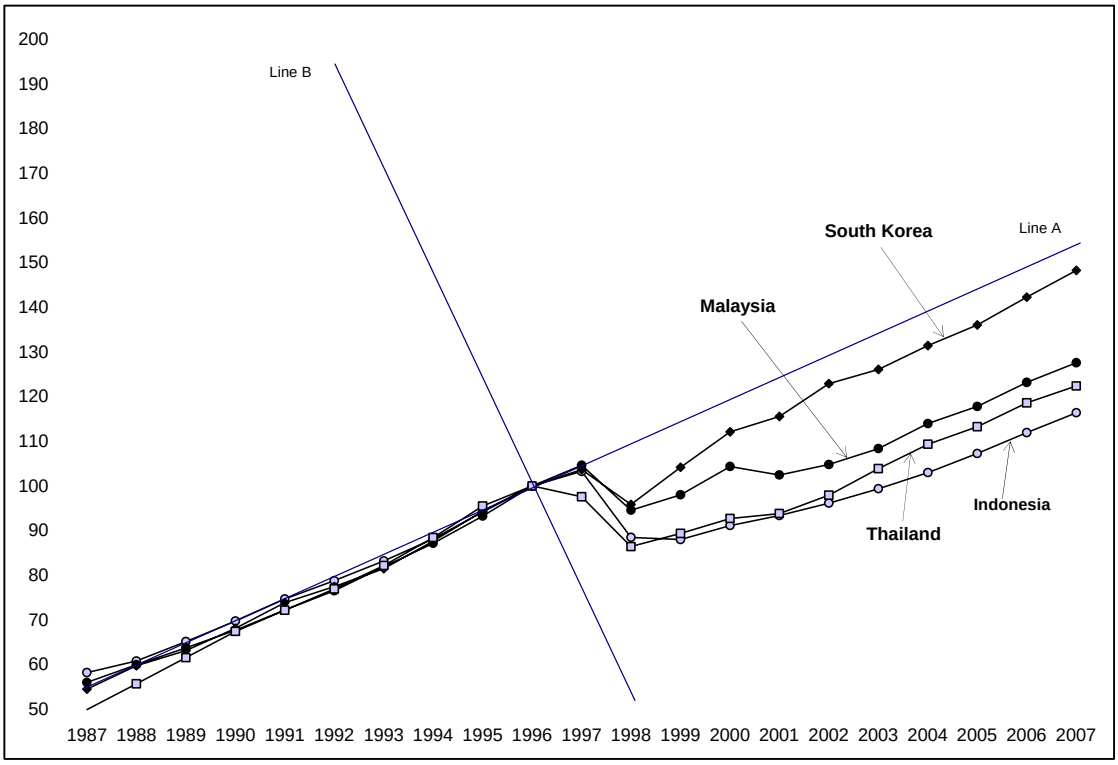


The economic performance of Thailand diverged from the group in 1997. Starting in 1998, the patterns of the crisis-affected countries became increasingly unbundled, with Indonesia, Malaysia, and Thailand farther away from South Korea. Notice also that the patterns of the three economies appear to

congregate about each other starting in 2003. The patterns of the four economies are expected to continue in the coming years.

Applying rotational analysis presents an interesting view of Figure 1. Basically, rotational analysis "transforms" the trends relative to an adjusted origin (here, 1996 = 100) to capture a distinct cluster of information, such as noted in Figure 1 (i.e., 1987 to 1996). A rotated axis is obtained by superimposing a line that captures the cluster in 1987 to 1996 but ensuring it crosses the new origin, 1996 = 100. With the rotated axis, the next step is to draw a perpendicular line at 1996 = 100. What one obtains is an orthogonal picture of Figure 1.

Figure 2: GDP Per Capita in 2000 Prices, Normalized and Rotated at 1996



In Figure 2, it is clear that Indonesia, Malaysia, South Korea, and Thailand have moved away from the rotated axis. Indonesia and Thailand have moved the farthest, and their trends appear to be still departing from the rotated axis, even in 2007. Malaysia has also moved away from the axis. Its trend became pronounced from 2001, although it appears to be stabilizing. South Korea is expected to keep its present trend, which is parallel to but below the rotated axis.

Furthermore, Figure 2 presents the counterfactual scenario for Indonesia, Malaysia, South Korea, and Thailand. The contention is that the socio-economic conditions between 1987 and 1996 might have continued had the deterioration in the economic fundamentals been addressed, captured bureaucracies and institutional rigidities been remedied, governments maintained effective management of their economies and polities such that progressive industrialization and broad-based economic expansions been sustained, etc.[2] Of course, the counter argument to the counterfactual is that these crisis-affected economies would nevertheless experience a deceleration in economic performances by the early 2000s if they had sustained economic expansions over a long period. Nonetheless, the deceleration would not have been as dramatic as that in the late-1990s. In the counterfactual, there would also be adjustments in policies that might have averted economic debacles.

The conclusion from the rotational analysis is therefore straightforward. While it can be argued that the crisis-affected economies have already exceeded their 1996 GDP per capita levels (Figure 1), it cannot be argued that they have regained the dynamic performances that distinguished them before the 1997 Asian Crisis. By extension, the crisis-affected economies have not fully recouped the costs inflicted by the Crisis.

3. ECONOMIC CONSEQUENCES OF THE CRISIS

As pointed out in the preceding section, the unimpressive economic performances of Indonesia, Malaysia, South Korea, and Thailand in the post-1997 Asian Crisis period implied that the costs have not been fully recouped, even by 2007. How big have been the damages inflicted by the Crisis to the four economies?[3]

Measuring the cost of the 1997 Asian Crisis involves forensic accounting. The first stage in the accounting exercise is to estimate the counterfactual performances of the crisis-affected economies, using

[2] In the early/mid-1980s, the governments of Indonesia, Malaysia, South Korea, and Thailand embarked on economic reforms and adjustments to produce dynamic performances in the following decade. In the counterfactual, these economies could have done similar reforms and adjustments in the 1990s to sustain their robust performances.

[3] Knowles, Pernia, and Racelis (1999); Robison, Beeson, Jayasuriya, and Kim (2000); Chang, Palma, and Whittaker (2001); and Chu and Hill (2001) are earlier discussions on the costs of the Crisis. As expected, the earlier studies presented preliminary estimates because of the difficulty in filtering out the dramatic changes that were unfolding in the late 1990s or still apparent in the early 2000s.

the model $y_t = \alpha + \beta\,\text{time} + \varphi\, y_{t-1} + e_t$, where y is GDP per capita (in 2000 prices).[4] The setup means that the current GDP per capita is determined by a time drift (i.e., proxy for the general direction of economic progress), *all* past information embedded in past GDP per capita, y_{t-1} (i.e., proxy for other factors that influence current performance including y_{t-1} due to $y_{t-[1+i]}$), and the residual (i.e., *other* factors affecting y_t). If the 1997 Asian Crisis had transitory impacts on an economy, the differences between the actual and estimated values, $\hat{y}$, is small. The subsequent values are expected to be negligible. The reverse is the case if the Crisis had permanent impacts. As such, the differences between y and $\hat{y}$ are large. And when real economic recovery had not occurred, the subsequent differences would become bigger over time. It must not be discounted that growth accelerations could occur in the future and that full recovery takes place then. The assumptions for the forensic accounting are similar to those employed in the rotational analysis above. In this case, the values for $\hat{y}$ represent the counterfactual performances.

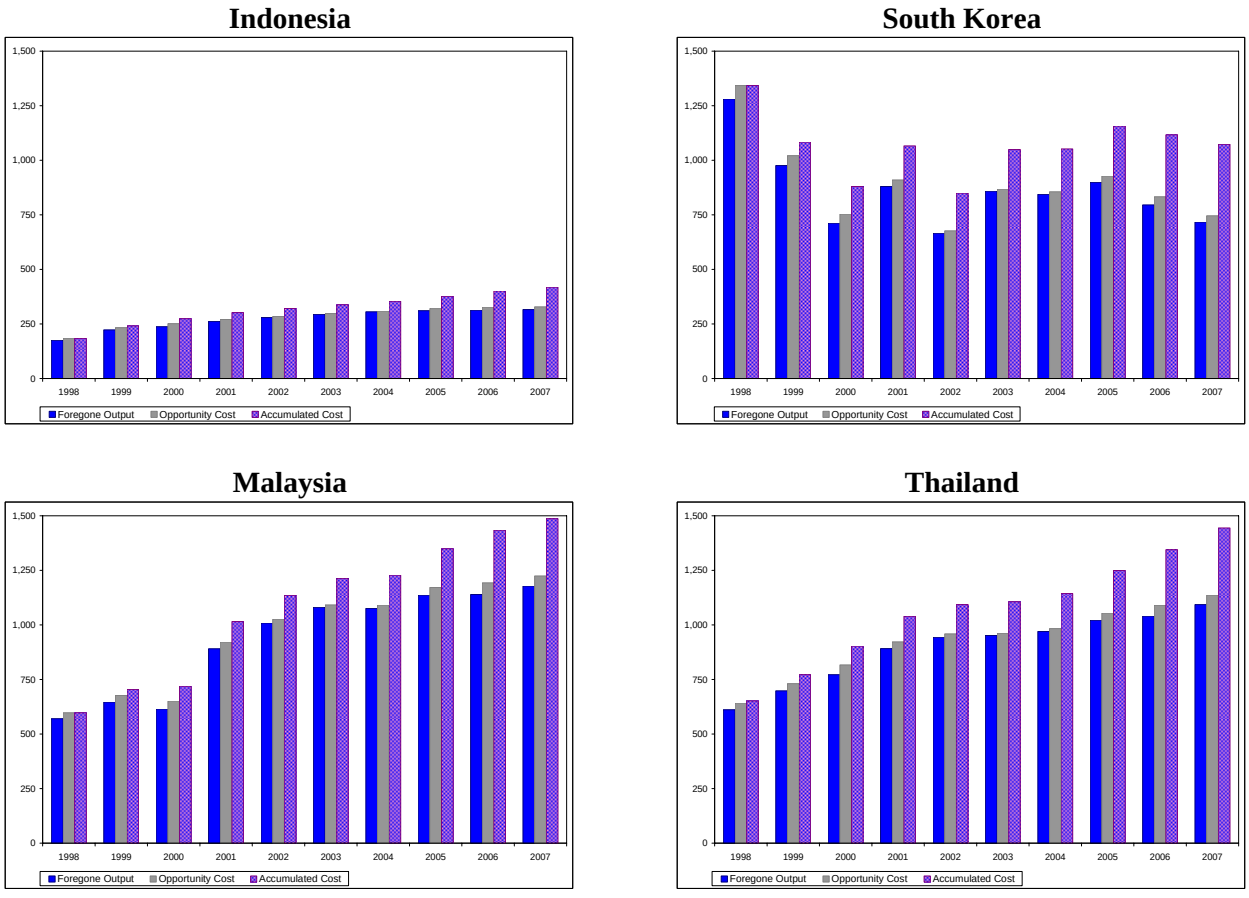
Other calculations are also done in this forensic accounting exercise. First, the accounting cost of the 1997 Asian Crisis is the direct cost per capita multiplied by the population at time t, where the direct cost is the foregone annual output per capita, or $(\hat{y}_t - y_t)$. Using United States Treasury Bill interest rates, r, the economic cost of the crisis, ec, is calculated as the opportunity cost per capita multiplied by the population in time t, where the opportunity cost per capita is measured as $[(1+r_t)(\hat{y}_t - y_t)]$. Lastly, the social cost of the crisis, sc, is the accumulated cost multiplied by the population in time t, where the accumulated cost per capita is $[(1+r)sc_{t-1} + (ec_t - ec_{t-1})]$, such that ec and sc assume the value of zero for period t-1 and that both are equal in period t. GDP per capita (in 2000 prices) were, again, from the *World Development Indicators* and *Asian Development Outlook*.

Figure 3 presents the estimates of the foregone output, opportunity cost, and accumulated cost of the 1997 Asian Crisis for Indonesia, Malaysia, South Korea, and Thailand over the period 1998 to 2007. The figures clearly show that the lost opportunities imposed by the Crisis have not been fully recouped as of 2007. While economic expansion in the immediate periods after the Crisis reduced the costs (Malaysia

[4] The (further) reduced form of $y_t = \alpha + \beta\,\text{time} + e_t$ is also estimated. The geometric mean of the two sets of results are obtained and used as the estimate of the counterfactual performances. The geometric mean ensures that the trend has zero as the lower-bound rate of growth.

and South Korea, in particular), the poor performances in the subsequent years failed to sustain the cost reductions. Moreover, the figures show that the gaps between the counterfactual and actual economic performances of the crisis-affected economies have been persistent. The trends for South Korea, however, suggest some gains on costs reduction, especially from in 2005. In fact, the South Korean performance demonstrates the crucial role that dynamic expansion play during the recovery period. Its strong rebound in 1999 meant that recouping the losses started earlier but was merely delayed when economic growth eased up in 2001 and fluctuated in the succeeding periods up to 2007. As for Indonesia, Malaysia, and Thailand, decent economic performances have not been sufficient to reduce costs significantly. From the figures, Indonesia has the least average costs compared to the other three economies; but considering the population of the country, the aggregated costs are quite large. As the economic expansions of these three economies slowed down, their costs in turn mounted. As of 2007, standing costs for Indonesia, Malaysia,

Figure 3: Cost of the 1997 Asian Crisis, Per Capita (in 2000 Prices)



and Thailand stood at twice their 1998 amounts. For South Korea, its costs stood at about half the 1998 amounts. For the four economies, the foregone output and opportunity costs are not expected to accelerate in the coming years provided that their economic expansions remained steady. However, the accumulated costs are expected to continue to increase steadily if they do not realize dynamic performances.

Lastly, the aggregated figures on the costs of the 1997 Asian Crisis suggest that the crisis-affected economies have endured the trauma (see Appendix). Total social cost of the Crisis for Indonesia in 2007 would be US$ 95 billion or 41 per cent of GDP. Malaysia would be burdened in 2007 with US$ 39 billion, which is 31 per cent of its GDP. For South Korea, the social cost would be US$ 53 billion or slight above 7 per cent of its GDP. Thailand would be loaded with US$ 95 billion or a hefty 55 per cent of GDP.

The conclusion from the forensic accounting is unmistakable. Indonesia, Malaysia, South Korea, and Thailand have suffered significant costs from the 1997 Asian Crisis, and moreover, they have not fully recouped the costs as of 2007. Furthermore, the costs have persisted because their economic performances have not been strong enough to compensate for the lost opportunities imposed by the Crisis.

4. FINAL WORDS

The economic performances of Indonesia, Malaysia, South Korea, and Thailand in the decade after the 1997 Asian Crisis became unimpressive when compared to their earlier performances. Moreover, the Crisis continues to impose costs on them. The rotational analysis revealed that these economies have been proceeding at lower growth trajectories. Among the group, Indonesia has moved the farthest from its past performance as an Asian miracle economy, while both Malaysia and Thailand are in a somewhat better situation, albeit also below past performances. South Korea, based on the rotational analysis, has in fact also been moving below past performances Forensic accounting revealed that these four economies have not fully recouped the lost opportunities inflicted by the Crisis. While they have exceeded their 1996 GDP per capita, they have done so after some years of lost opportunities, but they continue to suffer from these costs. From the accounting, Indonesia needs to recoup a social cost of US$ 95 billion; Malaysia, US$ 39 billion; South Korea, US$ 52 billion; and Thailand, US$ 95 billion. They have remained large because these economies have not achieved dynamic expansions in the post-Crisis period.

Finally, to recover the costs of the 1997 Asian Crisis, it is important to have dynamic expansions over time to compensate for the lost opportunities, perhaps, at an annual GDP per capita growth of at least 6 per cent, which was the minimum average growth of Indonesia, Malaysia, South Korea, and Thailand in the decade before the Crisis. If economic performances mellowed down to supposedly pragmatic levels, it would certainly be difficult to recoup the losses from the Crisis. Downgrading the growth targets in their economic plans to conform to the projections announced by international institutions and rating agencies is unwarranted, given that sufficient capacities are available for robust expansions. Such aversion to rapid economic growth is symptomatic of callousness to the unsatisfactory circumstances of the majority. Decisive actions are needed from their governments so that dynamic performances are realized, economic stabilities are ensured, and political securities are preserved. It is relevant to take up the useful components of the past arrangements but it is very important to put in the missing instruments for the present context. Accordingly, together with the dynamic expansions and sound government interventions to produce the needed structural transformations in the domestic economy, the complementary actions of capital and trade management techniques and the corresponding international cooperation and policy coordination are needed to construct the desire external economy that support broad-based economic performances.

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APPENDIX

Table 1: Total Accounting Costs (in 2000 prices)

Year	Indonesia	Malaysia	South Korea	Thailand
1998	35,159.4	12,528.2	59,288.1	37,231.2
	22.5	16.0	13.8	32.9
1999	45,289.3	14,529.4	45,489.7	42,904.1
	28.8	17.5	9.6	36.3
2000	49,095.4	14,125.1	33,469.8	47,872.3
	29.8	15.6	6.5	38.6
2001	54,596.8	20,928.6	41,650.6	55,792.8
	31.9	23.1	7.8	44.1
2002	59,212.8	24,192.9	31,705.8	59,566.9
	33.1	25.6	5.6	44.7
2003	63,193.0	26,408.3	41,094.3	60,631.6
	33.7	26.5	7.0	42.5
2004	66,463.8	26,767.1	40,588.2	62,302.8
	33.8	25.1	6.6	41.2
2005	68,504.3	28,800.8	43,421.5	66,155.7
	33.0	25.6	6.8	41.8
2006	69,894.1	29,409.8	38,569.2	67,958.4
	31.8	24.6	5.8	40.7
2007	71,658.8	30,958.6	34,937.5	72,003.1
	30.9	24.5	5.0	41.5

Note: Calculation of author. Numbers below the aggregate figures represent shares of gross domestic product.

Table 2: Total Economic Costs (in 2000 prices)

Year	Indonesia	Malaysia	South Korea	Thailand
1998	36,853.8	13,131.9	62,145.3	39,025.5
	23.6	16.8	14.4	34.4
1999	47,398.6	15,206.1	47,608.3	44,902.3
	30.1	18.3	10.1	38.0
2000	51,962.2	14,949.9	35,424.2	50,667.7
	31.5	16.6	6.9	40.9
2001	56,481.3	21,651.0	43,088.2	57,718.6
	33.0	23.9	8.1	45.6
2002	60,167.6	24,583.0	32,217.0	60,527.4
	33.6	26.0	5.7	45.4
2003	63,833.4	26,675.9	41,510.7	61,246.0
	34.1	26.8	7.1	43.0
2004	67,376.5	27,134.7	41,145.6	63,158.5
	34.2	25.4	6.7	41.7
2005	70,663.3	29,708.5	44,790.0	68,240.7
	34.0	26.4	7.0	43.2
2006	73,194.3	30,798.4	40,390.3	71,167.2
	33.3	25.7	6.0	42.6
2007	74,479.8	32,177.3	36,312.9	74,837.6
	32.2	25.5	5.2	43.1

Note: Calculations of author. Numbers below the aggregate figures represent shares of gross domestic product.

Table 3: Total Social Costs (in 2000 prices)

Year	Indonesia	Malaysia	South Korea	Thailand
1998	36,853.8	13,131.9	62,145.3	39,678.3
	23.6	16.8	14.4	35.0
1999	49,138.2	15,832.4	50,523.4	47,427.3
	31.2	19.1	10.7	40.1
2000	56,632.0	16,535.9	41,338.6	56,011.9
	34.3	18.3	8.1	45.2
2001	63,194.2	23,854.2	50,483.4	65,062.8
	36.9	26.3	9.5	51.4
2002	68,003.2	27,223.6	40,471.7	68,995.7
	38.0	28.8	7.1	51.8
2003	72,473.1	29,649.0	50,218.0	70,493.3
	38.7	29.7	8.6	49.4
2004	77,142.2	30,578.3	50,588.3	73,460.3
	39.2	28.6	8.2	48.5
2005	83,026.8	34,196.0	55,875.8	80,964.5
	40.0	30.4	8.8	51.2
2006	89,700.4	37,011.5	54,174.8	87,853.9
	40.8	30.9	8.1	52.6
2007	94,790.6	39,067.3	52,300.3	95,153.4
	40.9	31.0	7.5	54.8

Note: Calculations of author. Numbers below the aggregate figures represent shares of gross domestic product.